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Gregory L McColm* (mccolm@usf.edu), Dept. of Mathematics & Statistics, 4202 E. Fowler Ave., PHY114, University of South Florida, Tampa, FL 33620. *Humanism, Realism, and Folk Mathematics: the Case of Reticular Geometry.*

Whether or not mathematical objects are discovered or created, they are arranged, exhibited, and explained by professional, multi-disciplinary, or amateur mathematicians. And mathematics created in a cumulative enterprise by middle class academics might be structurally different from mathematics created by a disparate and diverse assortment of scattered artisans and enthusiasts. Consider what we might call *Reticular Geometry*, i.e., the geometry of fitting geometric shapes (often polygonal or polyhedral) together into articulated structures. Archeologists can confirm the antiquity of this subject while historians can confirm its influence in fields from architecture to chemistry. But these confirmations are of its influence (via applications) as a *folk* subject, not as an explicitly recognized field of scholarship. And its presence in academic mathematics prior to the Renaissance can be seen only in scattered fragments, and its presence in academic mathematics is massive but diffuse. We argue that in this case, the mathematics we see is organized and used by human beings, and such organization and use reflects their interests, resources and social organization. (Received September 11, 2010)